

- **Digital LCD or analog meter**
 - allows to select the proper indication

- **Programmable meter and HART configurator**
 - combines signal display with password protected configuration capabilities for transmitter management

- **Rugged, compact, lightweight, enclosure to IP67**
 - enables installation in industrial environments

- **Compatible with all 4-20 mA, 2-wire systems**

- **Square root signal characterization**
 - allows measurements linearization

- **Comprehensive certification approvals**
 - give high applicability in plant hazardous areas



Model 695FI field indicator provides simple and low cost remote indication of a process variable on an easy to read meter, ensuring the most useful display for any specific application. Traditional **analog indicator** is available with standard 0-100% linear or 0-10 square root graduations or special scales to be specified

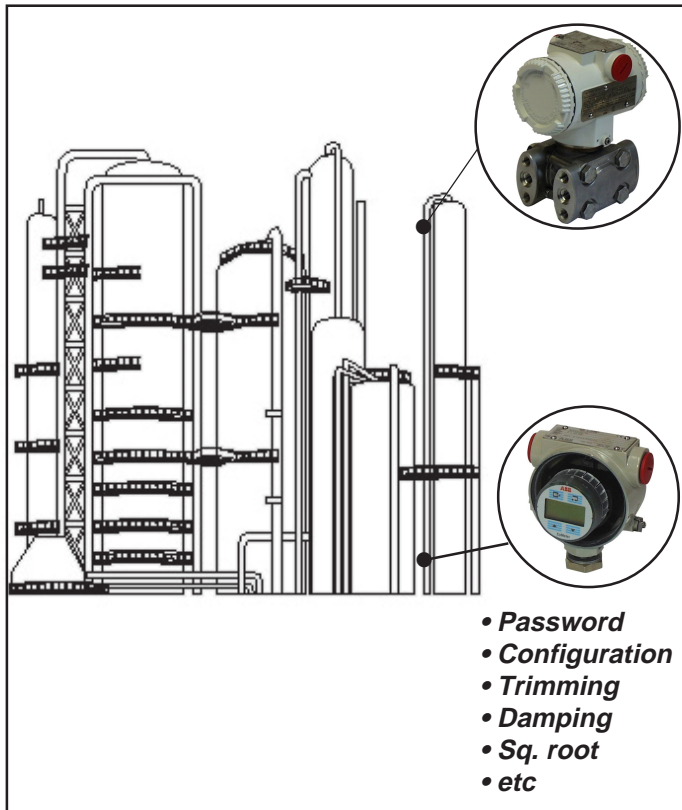


Basic **LCD indicator** features a 3 1/2 digit display with linear scale, 0-100% or as specified for range and engineering unit.



Frontal adjustments and dip switches allow easy reconfiguration of the required indication range. In addition to parallel transmitter wiring the terminal block 695FI provides series wiring through junction box connection facility.

A CoMeter remotely installed from transmitter allows convenient capability of configuration at easy accessible site.



Alternatively to the previous options, model 695FI, offers a programmable signal meter and configurator keypad display which integrates LCD plus bargraph indications with HART configuration capabilities (**CoMeter**), featuring

- one 5-digit numeric indication (top)
- one 10-segment bargraph indication (central)
- one 7-digit alphanumeric indication (bottom)
- a membrane keypad with 4 tactile feedback keys



The functionality as **METER** is achieved by the 10-segment bargraph which gives an analog 0-100% indication and by the 5-digit display which gives a digital indication programmable from the following options:

- 4 to 20 mA
- 0 to 100%
- engineering unit

Programmability is carried out using the four keys, allowing to define linear or square root indication for mA or engineering unit; for this latter, also indication range (zero and full scale values) can be chosen related to the unit which is defined in HART table; these parameters can be automatically uploaded from the transmitter where 695FI with CoMeter is remotely connected.

As **CONFIGURATOR**, the device keypad allows easy management of the associated transmitter; the 7-digit alphanumeric display provides comprehensive feedback via menu driven operations. This configuration device operates in compliance to standard definition of universal and common practice HART commands as explained in the following list:

- PV reading
- Analog output and % output reading
- Secondary variables reading
- Transmitter tag reading
- Sensor number reading
- Up/Down scale setting reading
- Upper and Lower Range limit reading
- Change output transfer function (square root)
- Change units
- Change range (ranging)
- Change damping
- Transmitter number (assembly reference)
- Reranging (wet calibration)
- Loop test
- Output trimming (directly using CoMeter or by external DVM)
- Zero alignment (sensor trim)

Overall password protection ensures operational security, avoiding unauthorized access to any CoMeter operation.

FUNCTIONAL SPECIFICATIONS

Input range: 4 to 20 mA nominal

Operating range:

3.6 to 22 mA (for CoMeter ensuring HART functionality)

Maximum overload (for 2 minutes)

- LCD or analog indicator : 150% of input range
- CoMeter: 110 mA (23 mA indication).

A current less than 3.4 mA will blank the display

Voltage drop

- analog indicator : 0.2 Vdc
- LCD digital indicator : 2Vdc
- CoMeter
 - less than 2.6 V dc @ full scale and 20°C
 - 2.8 Vdc @ max temperature (including HART modulation)

Meter/indication range

- LCD : 3 1/2 digit (± 1999 counts) with 10 mm. high (3/8 in), 7-segment characters. Engineering unit labels are provided. Standard scale is 0 to 100% linear; special linear scale to specified range and engineering unit is available.
- analog : available scales are 0-100% linear or 0-10 square root, with indication on 36 mm. (90°) scale. Special scaling available.
- CoMeter
 - 5-digit (± 99999 counts) with 7.6 mm. high (3 in), 7-segment numeric characters plus sign and digital point
 - 10-segment bargraph display
 - 7-digit with 6 mm. high (2.3 in), 14-segment alphanumeric characters.

Temperature limits °C (°F)

- Ambient (is the operating limit)
 - analog indicator: -25 to +85°C (-13 to +185°F)
 - LCD indicator: -20 to +80°C (-4 to +176°F)
 - CoMeter : -20 to +70 (-4 to +158)Lower limit can be down to -40 (-40) keeping loop integrity and without meter damage (the display will be blank)
- Storage
 - 40 to +85 (-40 to +185)

Relative humidity

- Reference: 60% \pm 25%
- Operative, transportation and storage limits : 0 and 100% condensing permissible

EMI/RFI (SAMA PMC 33.1)

- Operative limits : Class 3 abc, field strengths up to 30V/m (Frequency range: 20 to 1000 MHz)

Update time

- LCD and analog indicators : 0.5 sec
- CoMeter : 0.7 sec

Resolution for CoMeter

$\pm 0.025\%$ (12-bit conversion)

PERFORMANCE SPECIFICATIONS

Stated at ambient temperature of 23°C \pm 3K (75°F \pm 5), relative humidity of 50% \pm 20% and atmospheric pressure

Indication accuracy

- analog indicator : $\pm 2\%$ fsd
- LCD indicator: $\pm 0.1\%$ of calibrated span ± 1 digit
- CoMeter :
 - digital $\pm 0.10\%$ of max span(16 mA) ± 1 digit
 - analog (bargraph) : 10%

Ambient temperature

Total effect per 1 K (1.8 °F) change between the limits of -20 and +80°C (-4 and +176 °F).

LCD indicator : $\pm (0.0002 \times \text{counts} + 0.1)$ of reading

CoMeter : $\pm 0.15\%$ of max span (16 mA)

EMI/RFI

Total effect : $\pm 0.10\%$ from 20 to 1000 MHz and for field strengths up to 10 V/m when instrument is properly installed.

PHYSICAL SPECIFICATIONS

Materials

Housing and covers

Aluminium alloy with light gray (RAL 4002) baked epoxy finish; AISI 316 L ss.

Covers O-ring: Buna N

Identification tag

AISI 316 ss permanently mounted.

40 characters max on three lines (legend to be specified).

Mounting bracket (*)

Plated carbon steel with chrome passivation; AISI 316 L ss

Environmental protection

Wet and dust-laden atmospheres

The field indicator is dust and sand tight and protected against immersion effect as defined by IEC 529 to IP 67 or by NEMA 4X.

Hazardous atmospheres

INTRINSIC SAFETY/ EUROPE

ATEX/CESI approval

EC-Type Examination Certificate no. CESI 01ATEX015

II 1 GD T50°C, EEx ia IIC T5 (-40°C \leq Ta \leq +40°C)

T95°C, EEx ia IIC T4 (-40°C \leq Ta \leq +85°C)

FLAMEPROOF/EUROPE

ATEX/CESI approval

EC-Type Examination Certificate no. CESI 01ATEX011

II 2 GD T80°C, EEx d IIC T6 (-40°C \leq Ta \leq +70°C)

T95°C, EEx d IIC T5 (-40°C \leq Ta \leq +85°C)

CANADIAN STANDARDS ASSOCIATION and FACTORY

MUTUAL:

- Explosionproof: Class I, Div. 1, Group B, C, D

- Dust ignitionproof: Class II, Div. 1, Group E, F, G

- Suitable for: Class II, Div. 2, Group F,G; Class III, Div 1,2

- Nonincendive: Class I, Div. 2, Group A,B,C,D

- Intrinsically safe: Class I, II, III, Div. 1, Group A,B,C,D,E,F,G

Electrical connections

Two 1/2 NPT or M20x1.5 or PG 13.5 or 1/2 GK threaded conduit entries, direct on housing.

Terminal block

Three screw terminals suitable for wirings up to 2.5 mm² (14 AWG) and three connection points for test and communication purposes.

Grounding

Internal and external 6 mm² (10 AWG) ground termination points are provided.

Mounting

Vertical position on a 60 mm or 2 in pipe by bracket.

Net weight

0.9 Kg. approx (2 lb) (without mounting bracket).

Packing

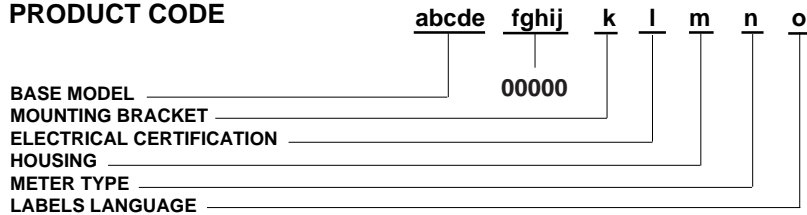
Expanded polythene box.

(*) U-bolt material: AISI 400 ss.

ORDERING INFORMATION

Select one character or set of characters from each category and specify complete catalog number.

PRODUCT CODE



abcde	MODEL - 1st to 5th characters	Code
	Field Indicator / Junction Box	695FI

fghij	6th to 10th characters	
	Use code	00000

k	MOUNTING BRACKET - 11th character	
	Carbon steel (not suitable for AISI housing)	2
	AISI 316 s.s.	3

l	ELECTRICAL CERTIFICATION - 12th character	
	General Purpose	1
	ATEX Group II Category 2 GD - Flameproof EEx d II C T6, T5 CESI approval	F
	ATEX Group II Category 1 GD - Intrinsic Safety EEx ia II C T5, T4 CESI approval	L
	Factory Mutual (FM) and Canadian Standard Association (CSA) approvals	8

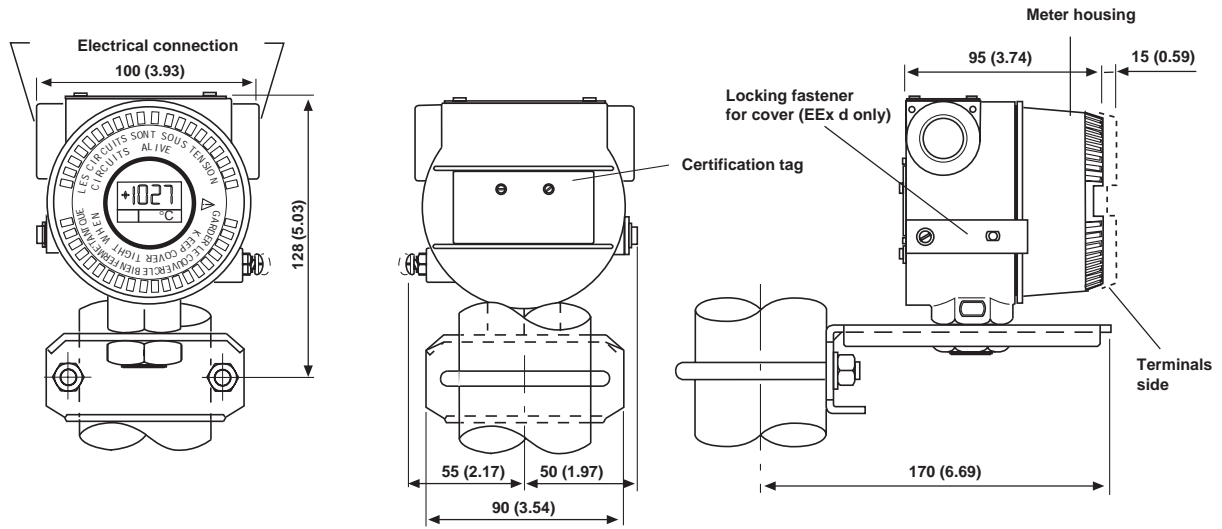
m	HOUSING - 13th character		
	Housing material	Electrical connection	
	Aluminium alloy	1/2" NPT	1
		M20 x 1.5 (CM 20)	2
		Pg 13.5 (Note)	3
		1/2" GK (Note)	4
	AISI 316 L ss (not available with Carbon steel bracket)	1/2" NPT	A
		M20 x 1.5 (CM 20)	C
		Pg 13.5 (Note)	D
		1/2" GK (Note)	F

Note: Not available with electrical certification code 8 at position "l".

n	METER TYPE - 14th character	
	Digital LCD output indicator linear 0-100%, user scalable	3
	Digital LCD output indicator linear scale (specify range and engineering units)	5
	Analog output indicator linear 0-100% scale	7
	Analog output indicator square root 0-10 scale	8
	Analog output indicator, special graduation (to be specified for linear scale)	9
	Analog output indicator, special graduation (to be specified for square root scale)	Z
	Programmable signal meter and HART configurator (standard)	P
	Programmable signal meter and HART configurator (customized)	W

o	LABELS LANGUAGE - 15th character	
	English	E
	German	G

DIMENSIONS AND MOUNTING DETAILS (not for construction unless certified)



WIRING DIAGRAM

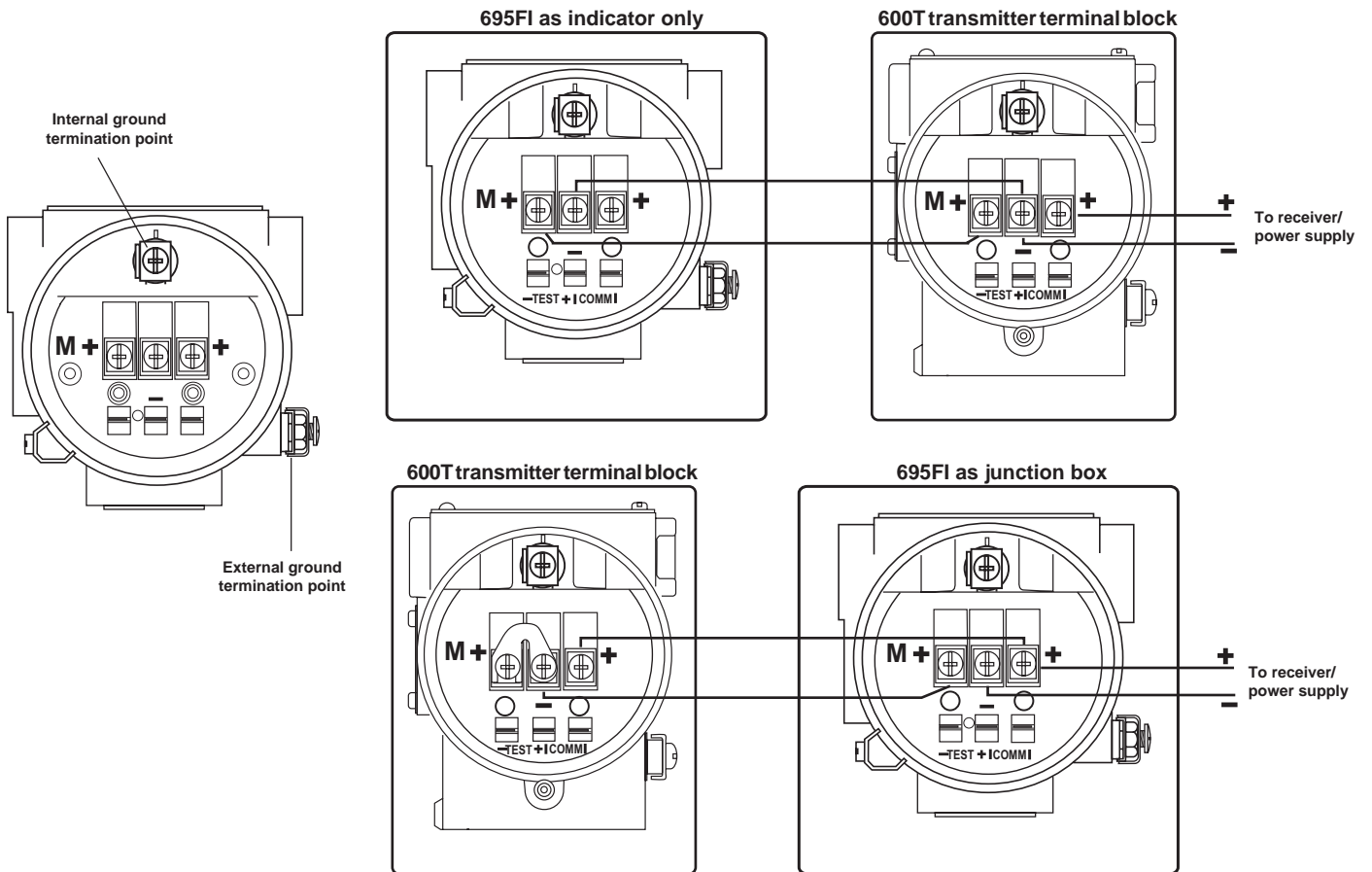




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The Company's policy is one of continuous product improvement and the right is reserved to modify the specifications contained herein without notice.